

CLAIMS

1. A voltage conversion device (12, 13, 30) converting a DC voltage from a DC power supply into an output voltage in such a manner that said output voltage is
5 equal to a target voltage, comprising:

a voltage converter (12) changing a voltage level of said DC voltage to output said output voltage;

detection means (13) detecting said output voltage output from said voltage converter (12); and

10 control means (30) conducting feedback control of said voltage converter (12) in the manner that said output voltage is equal to said target voltage, said feedback control conducted, in a case where a first deviation between said target voltage and said detected output voltage is larger than a predetermined value, by changing a voltage command of said voltage converter (12) in such a manner that a second deviation
15 between said voltage command and said output voltage decreases.

2. The voltage conversion device according to claim 1, wherein

said control means (30) controls said voltage converter (12), in a case where said detected output voltage decreases below said target voltage, so that said output voltage
20 is equal to said target voltage by conducting first feedback control and second feedback control,

said first feedback control refers to feedback control of said voltage converter (12) executed by changing said voltage command in such a manner that said second deviation is at most said predetermined value, and

25 said second feedback control refers to feedback control of said voltage converter (12) executed, in a case where said detected output voltage having been decreasing starts to increase, by changing said voltage command in such a manner that the rate of change of said voltage command is at most a standard value.

3. The voltage conversion device according to claim 2, wherein
in the case where said first deviation is larger than said predetermined value, said
control means (30) conducts said first feedback control using said voltage command
5 determined by adding said predetermined value to said detected output voltage.

4. The voltage conversion device according to any of claims 1 to 3, wherein
said output voltage is input to an inverter (14) driving an AC motor (M1).

10 5. The voltage conversion device according to claim 4, wherein
said AC motor (M1) is a motor for a vehicle.

6. A computer-readable recording medium having a program recorded thereon
for a computer to control voltage conversion from a DC voltage from a DC power
15 supply into an output voltage in such a manner that said output voltage is equal to a
target voltage, said computer executing:

a first step of detecting said output voltage; and

a second step of conducting feedback control of a voltage converter (12)
converting said DC voltage into said output voltage, said feedback control conducted, in
20 a case where a first deviation between said target voltage and said detected output
voltage is larger than a predetermined value, by changing a voltage command of said
voltage converter (12) in such a manner that a second deviation between said voltage
command and said output voltage decreases.

25 7. The computer-readable recording medium according to claim 6, wherein
said second step includes:

a first sub-step of calculating said first deviation;

a second sub-step of detecting that said first deviation is larger than said

predetermined value;

a third sub-step of conducting feedback control of said voltage converter (12) by changing said voltage command in such a manner that said second deviation is at most said predetermined value; and

5 a fourth sub-step of conducting feedback control of said voltage converter (12), in a case where said detected output voltage having been decreasing starts to increase, by changing said voltage command in such a manner that the rate of change of said voltage command is at most a standard value.

10 8. The computer-readable recording medium according to claim 7, wherein said third sub-step includes the steps of:

calculating said voltage command by adding said predetermined value to said detected output voltage; and

15 conducting feedback control of said voltage converter (12) using said calculated voltage command.

9. The computer-readable recording medium according to claim 7 or 8, wherein

said fourth sub-step includes the steps of:

20 detecting that said output voltage having been decreasing starts to increase;

calculating a difference between a first voltage command at a first control timing and a second voltage command at a second control timing preceding said first control timing;

comparing said difference with said standard value;

25 calculating said first voltage command, in a case where said difference is larger than said standard value, by adding said standard value to said second voltage command;

calculating said first voltage command, in a case where said difference is at most said standard value, by adding said predetermined value to said detected output voltage;

and
conducting feedback control of said voltage converter (12) using said calculated
first voltage command.